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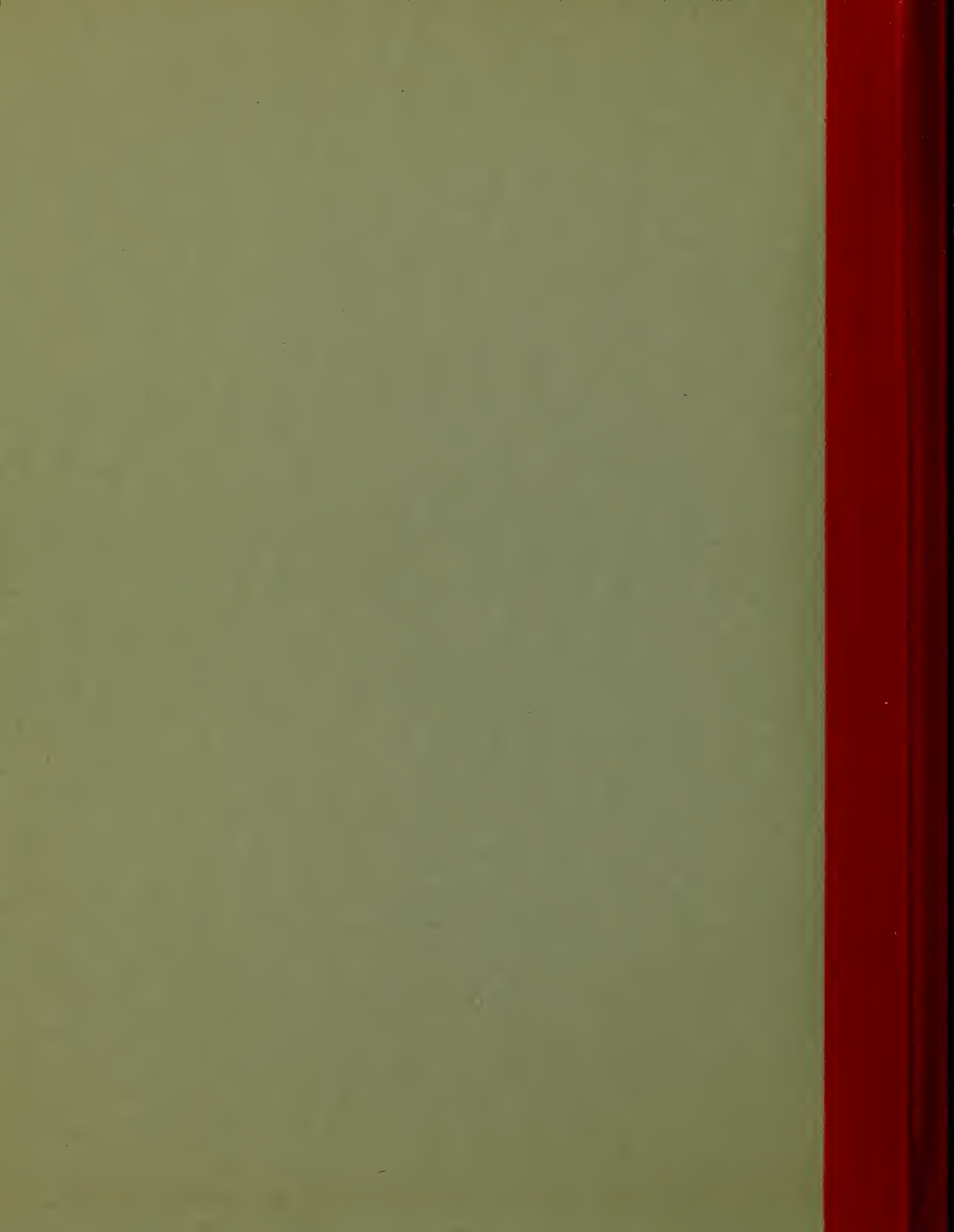
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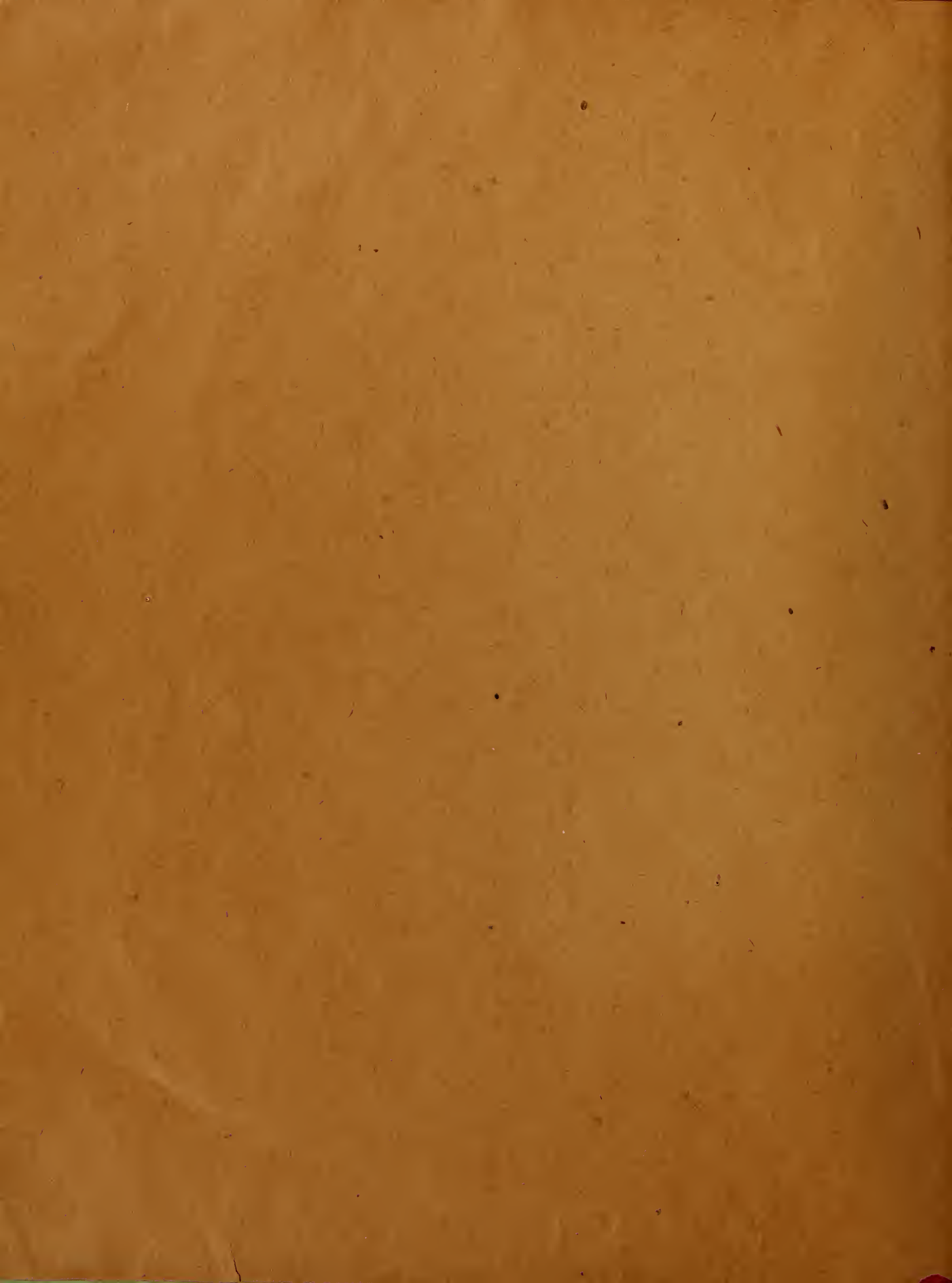
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Oregon!







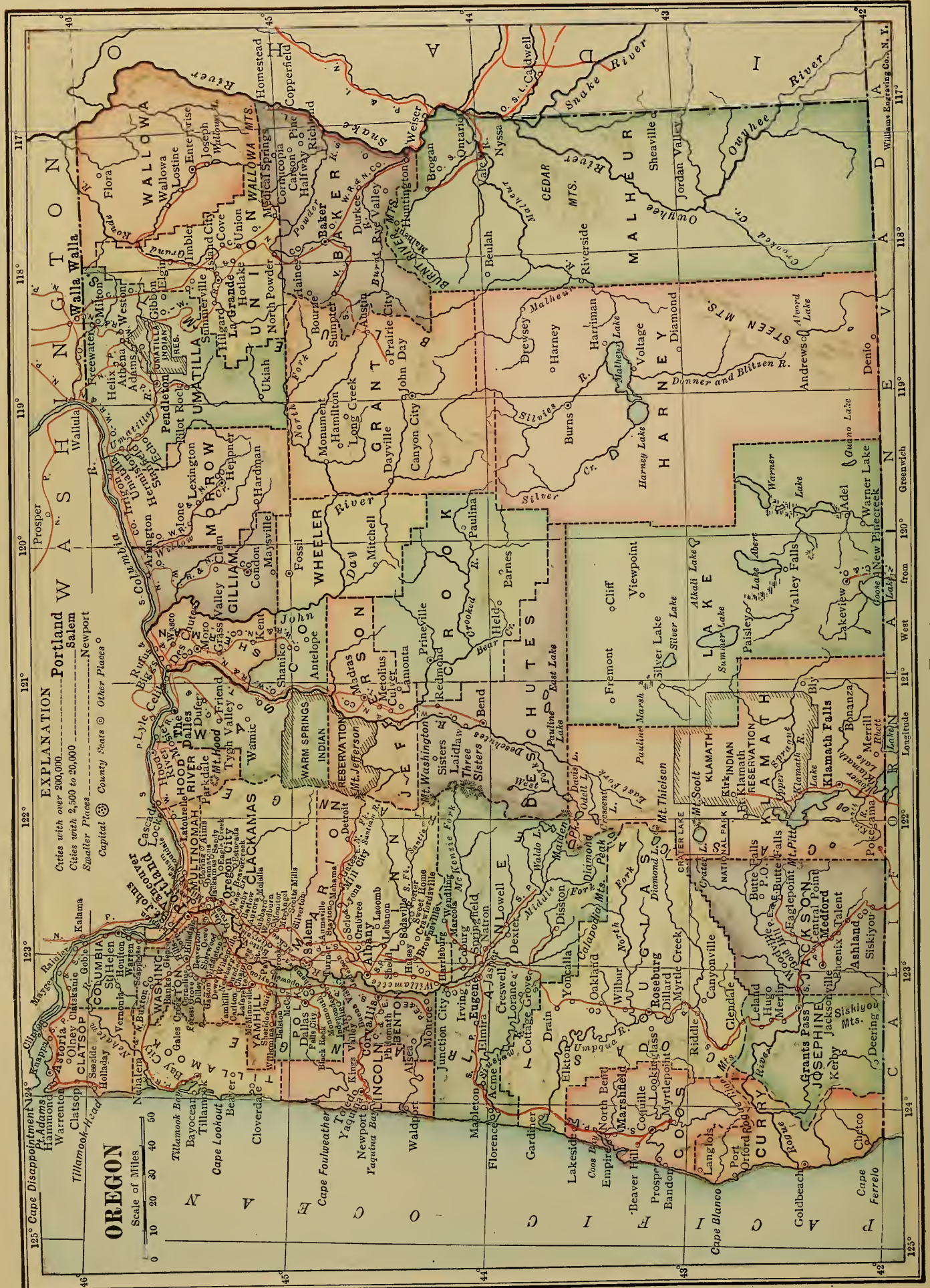


FIG. 1.

Williams Engraving Co., N. Y.



# THE OREGON SUPPLEMENT

BY E. H. WHITNEY, ASSISTANT SUPERINTENDENT OF SCHOOLS, PORTLAND, OREGON

## I. Location, Area, and Population

Bound Oregon. What two rivers partially separate it from the states bounding it on the north and east? Give the approximate latitude of the northern boundary; the latitude of the southern boundary. Name three states bordering on the Atlantic Coast in nearly the same latitude. Give the longitudes of the eastern and western boundaries. With the scale of miles given, measure the approximate distance from east to west; from north to south. In what time belt is Oregon located? When it is noon in Portland, what time is it in New York City? Sketch from memory an outline map of the state.

Oregon is one of the three Pacific Northwestern states, the other two being Washington and Idaho. It is rectangular in outline. The length of the state from east to west is 395 miles; and from north to south, 278 miles. The distance by rail across the state is 500 miles; and from north to south, 475 miles. The area of Oregon includes 94,560 square miles of land surface, and 1470 square miles of water surface. It ranks seventh in size among the states.

The population of Oregon in 1919 was nearly 905,000. About four fifths of the people live west of the Cascades; and over two fifths in cities and towns. The ratio of native to foreign-born population is nearly three to one.

Compare Oregon's area and population with that of Washington; New York. During the past decade, what gain in population has been made? What foreign countries contribute the greatest numbers to our population?

Draw an outline map of Oregon, and reserve it for further work as the study of the state progresses.

## II. Relief and Drainage

Geographically, Oregon is considered in three divisions: Eastern, Western, and Southern Oregon. The part of the state east of the Cascades is called Eastern Oregon; the part south of the Calapooia Mountains and west of the Cascades, Southern Oregon; and the remaining part, Western Oregon.

The land surface of what is now our state originally consisted of two islands: one formed by a volcanic upheaval of the Blue Mountains from the floor of the sea; the other, by a similar upheaval of the Siskiyou (see map). At a later period, in the process of earth cooling, the Cascades were upfolded, and with them the entire western chain of which they form a part. This uplift formed a landlocked sea of the water lying east of the newly formed sea dyke and inclosing the Blue Mountain Island. But gradually the floor of this sea became raised, and its waters subsided into a series of connecting lakes now forming the lower course of the Columbia River.

At a still later period, the Coast Range Mountains were uplifted, forming a second landlocked sea of the region now known as the Willamette Valley. In time, the floor of this sea rose, draining its waters also through the channel of the present Columbia River, exposing to the weather a great area of muddy sediment. The fertile soil of the Willamette Valley was formed of this sediment. It is rich in soda, phosphates, potash, iron, and humus, all important plant foods.





FIG. 2. — Rough relief map of Oregon, showing the six natural geographical and agricultural divisions of the state, the boundaries of which follow county lines.

The other valleys of Western Oregon and those of the southern part of the state have a similar history, and therefore possess a soil of equal fertility. The soil of Eastern Oregon is of an entirely different nature. After the

Cascades upfolded, frequent eruptions occurred, and great sheets of lava poured forth on the sides of the mountains. Westerly winds carried the light volcanic ash and deposited it like a light blanket of snow over the greater part of Eastern Oregon. In time this covering formed a light soil, rich in the foods required for the growth of fruit and wheat.



FIG. 3. — Characteristic scene on the upper Rogue River.

Locate the Blue Mountains; the Steen Mountains. These mountains and the Cascades nearly surround the Central Oregon plateau. Show the location of these mountains on your outline map. The Central Oregon plateau has an average elevation of 4000 feet. Name and locate the principal rivers and lakes draining this section. Where do we find the

Map Work





FIG. 4. — A view of the Columbia River Gorge showing Crown Point and Vista House (on the right).

best farming sections on this plateau? Why? What railroads penetrate this region?

What counties are drained by the Snake River and its tributaries? The Columbia River and its tributaries drain more than half the area of Oregon. Trace the course of this great river. Name three rivers flowing through the portion of the Columbia River Valley lying between the Cascades and the Blue Mountains, and north of the Central Oregon plateau. This section is noted for its fruit growing and wheat raising.

Locate the Cascades; the Coast Range. The Coast Range Mountains lie ten to thirty miles from the Pacific Ocean, and have an extreme altitude of 4000 feet above sea level.

They are covered with dense forests. What kinds of trees are found on these mountains? The Cascades are located 110 to 150 miles inland. They are a continuation of the Sierra Nevadas, and have an extreme height of 7000 feet, with several peaks rising 2000 to 5000 feet higher. The altitude of Mount Hood is 11,225 feet. Locate two other peaks in this range, giving their heights. Locate Crater Lake. It is now an extinct volcano; its rim once formed a prominent mountain peak, serving as a watershed for the Rogue, Klamath, and Umpqua Rivers. The Cascades are heavily timbered to the snow line.

The Cascades, Coast Range, and Calapooia Mountains surround the Willamette Valley



on three sides. This valley is 150 miles long, and averages 50 miles in width. What river drains its length?

In Southern Oregon are situated the fertile Umpqua and Rogue River valleys, especially adapted by soil and climate for fruit growing. What rivers drain these two valleys? Trace their courses. Locate the Calapoosias; Rogue River Mountains; the Siskiyou.

### III. Highways and Scenery

No state in the Union has more varied and beautiful scenery than Oregon. The Columbia Highway, "America's Great Highway," extends from The Dalles, through the Columbia River Gorge, to the sea. Its entire construction represents the perfection of modern road engineering. No grades exceed five per



FIG. 5. — Crater Lake, 6000 feet above sea level. How may the island be accounted for?

Low-lying mountain ridges extend westward from the Coast Range, and divide Oregon's coast section into numerous small valleys. (See relief map.) These valleys have a soil of wonderful fertility, and, because of their mountains and locality, have an abundant rainfall. This part of the state excels in the dairying industry.

cent; yet in less than half an hour's time one may climb from the river's level to points hundreds of feet above the Columbia. Crown Point is 750 feet above the river. The highway leads through a fairyland of forest depths and waterfalls; of rock-walled gorges and mighty palisades. Parks have been set aside along the way for the public's enjoyment.



The Ocean Highway takes in the Clatsop and the Tillamook County beaches; and when completed, will unite with the Southern Oregon Ocean Highway. Newport, on Yaquina Bay, is picturesquely located and is accessible by automobile.

The road extending from Washington into California is called the Pacific Highway. It traverses the length of the fertile Willamette Valley through orchards and fields of grain; thence, across the Calapooias into the fruit lands of Southern Oregon. In Josephine County, a branch road and trail leads from the main highway to the "Marble Halls of Oregon." Another branch road leads from the Rogue River Valley to Crater Lake National Park, connecting with the Central Oregon Highway which follows the eastern slope of the Cascades to The Dalles. Crater Lake is a scenic resort of unsurpassed beauty. Its blue waters lie in the crater of an extinct volcano, 6000 feet above sea-level. The lake is six miles in diameter. It has a depth of over a thousand feet. There is no known outlet.

Mount Hood is another great scenic attraction. Because of its location, height, and symmetry of outline, it has long been considered one of America's most beautiful snow peaks.

Oregon has many other scenic features well worth mentioning, including Wallowa Lake, the Snake River Canyon on the eastern border of Wallowa County, and the John Day Canyon in Wheeler County.

#### IV. History

At the time of the American Revolution, Russia, Spain, and England each claimed, by right of discovery, the territory embodied in the present State of Oregon.

A few years later an American, Captain Gray of Boston, set sail for the Northwest coast. In 1792, as he sailed near the land, he saw a wide estuary and turned aside for exploring purposes. Finding he had discovered a hitherto unknown river, he named it in honor of his good ship *Columbia*. Because of his discovery, the United States laid claim to the Columbia basin.

By the Lewis and Clark expedition, 1804-1806, and the founding of a fur trading post at Astoria in 1811 by John Jacob Astor, America proved to England that she had a



FIG. 6. — Wallowa Lake.

serious rival on the Pacific. The Lewis and Clark expedition aroused a new interest in the Oregon Country, and established the fact of the existence of a highway across the continent.

In 1819, a treaty was made between our country and Spain whereby the latter gave up all claims to the Pacific north of the forty-second parallel. In 1824, by an agreement with Russia, all that part of the coast south of 54 degrees 14 minutes was disclaimed by her. These two agreements left Great Britain and the United States the sole contenders for the stretch of coast lying be-





FIG. 7. — A reproduction of the blockhouses and palisades that were part of old Fort Astoria.

tween the latitudes just given. (Locate on your map these two latitudes.)

Great Britain, through the medium of two powerful fur-trading companies, the Northwest and the Hudson Bay, maintained a foothold in the Columbia basin. Neither that country nor the United States could agree upon a dividing boundary. England wished to place our northern limit at the Columbia River, and we held out for all the territory south of 54 degrees 50 minutes. In 1818 an agreement was entered into between the two countries whereby the entire Oregon Country was to be left open to both nations for a period of ten years. In 1828 this agreement was renewed for an indefinite period.

In 1846 a treaty was made with Great Britain whereby all the region south of the forty-ninth parallel, except Vancouver Island, was awarded to the United States. In 1848 Congress created a territorial government and on February 14, 1859, the state with its present boundaries was admitted into the Union.

## V. Government

Oregon has three departments of government: the legislative, the executive, and the judicial.

The legislative department consists of a house of representatives whose sixty members serve for two years, and a senate whose thirty members serve for four years. Regular legis-

lative sessions are held biennially, for a period of forty days. Oregon has in Congress three representatives and two United States senators.

The executive department is composed of a governor, secretary of state, treasurer, attorney-general, superintendent of public instruction, and various executive committees. Each of the officers just named serves for four years.

The judicial authority is vested in a supreme court, consisting of seven judges who are elected for six years; in circuit courts; in county courts; in district courts; and in justice courts.

The two distinctive features of the Oregon system of government are the "Initiative and



FIG. 8. — State Capitol at Salem.



Referendum," and the "Recall." The people of Oregon may reject any unsatisfactory law passed by the legislature by petitioning that such a law be "referred" to them for a popular vote. Or, they may "initiate" a new measure by petition, and have it submitted for approval or rejection at a general election. This power of the people is known as the "Initiative and Referendum." The citizens may "recall" any elected officer held unfit to serve his position by securing the required number of signers to a petition calling for a "recall" election. If at this election the number of his votes does not exceed that of any of his opponents, he must give up his office.

## VI. Seacoast and Harbors

Rocky headlands from the Coast Range Mountains form promontories which if unguarded would prove a serious menace to navigation. To insure safe coastwise traffic,



FIG. 9. — A lighthouse at the mouth of the Columbia River, in the Portland lighthouse district.

our Government has established lighthouse stations at Cape Blanco, Coquille River, Cape Arago, Umpqua River, Heceta Head, Yaquina Head, Cape Mears, and Tillamook Rock. The Columbia River Light Vessel marks the Columbia River entrance. These stations all come under the jurisdiction of the Seventeenth Lighthouse Division, whose headquarters are at the Custom House in Portland.



FIG. 10. — The municipal dock at Astoria.

The mouth of the Columbia River forms one of the most important harbors along the entire Pacific Coast. It is a receiving port for cargo-laden vessels from Vladivostok, Yokohama, Shanghai, Hong Kong, Manila, Sidney, Auckland, Honolulu, Panama, Valparaiso, and various coast points; and it is a shipping port for the products of Oregon and the Inland Empire. Formerly, bar formations and channel shifting made the entrance from the sea into the Columbia uncertain; but in 1918, after years of Government work and an expenditure of millions of dollars,



permanent improvements were completed. A north and a south jetty have been constructed, the former four miles, and the latter seven miles in length. Extensive dredging

Government dredging, vessels drawing 20 feet may now safely enter the harbor.

Mark on an outline map of Oregon the location of lighthouses and of inland and sea-coast harbors. **Map Study**  
Compare Oregon's seacoast line with Washington's; with Maine's.



FIG. 11. — Ocean steamer outward bound from the Columbia River.

has been done. The two jetties prevent bar formation. At the entrance channel, the Columbia now has a constantly increasing depth of over 40 feet for a width of 3000 feet, thus affording safe entry for the largest of sea-going vessels. Astoria, located near the mouth of the Columbia, is rapidly increasing in importance as a seaport.

Government work on the Columbia to the mouth of the Willamette, and the port of Portland's work from that point to its own harbor, has given to this entire course a depth of 30 feet at zero stage, with a channel from 300 to 600 feet in width. Portland's harbor is now accessible to the largest vessels operating on the Pacific. Distance by ship from this city to the ocean is about one hundred miles.

Besides the Columbia River entrance, there are smaller sea-coast harbors, the principal ones being Coos Bay, Yaquina, Tillamook, and Umpqua. Coos Bay, the largest natural harbor between Portland and San Francisco, is steadily gaining in importance as a port. As a result of

Mountains has some valuable dairy interests, but in the Willamette Valley and the Coast Region the natural advantages are not excelled in any other part of the world. This is especially true of the Coast Region.



FIG. 12. — Modern dairy barn and silo.

Washington County in the Willamette Valley and Tillamook County on the coast are the leading dairy counties of the state. The former is the chief dairy county in respect to the amount of production, but the latter is



really the banner county, owing in a great measure to the splendid organization of dairymen and manufacturers. In the past 11 years Tillamook County has produced more than 42,000,000 lb. of cheese.

A few years ago it was thought necessary to go east, even as far as western Europe, for well-bred dairy stock with which to build up our herds. It is no longer necessary to do this. Oregon breeders are just as expert

Pounds of cheese made . . . 8,719,220  
 Pounds of milk condensed . . . 69,064,605  
 Pounds of condensed milk made 33,688,902  
 There are 91 creameries, 79 cheese factories and 5 condenseries in Oregon.

VIII

The Pacific Northwest is rapidly becoming an important live stock producing region



FIG. 13. — Taking sheep from the interior of Oregon to the market.

as any in the world, and their herds of fine dairy stock have won international fame.

From the report of the State Dairy and Food Commission for the year ending September 30, 1918, the following items were taken:

Pounds of butter fat used in the manufacture of butter . . .	11,282,311
Pounds of creamery butter made	13,854,625
Pounds of milk made into cheese	80,869,691
Pounds of butter fat made into cheese . . . . .	3,320,306

Portland, because of its location and development, is recognized as the central market for the stock products of this region.

The annual stock show held in **Live Stock** Portland encourages stock raisers not only in Oregon but through the entire northwest to raise only the best breeds of stock. At these shows, prize-winning stock from all parts of Canada and the United States are shown. The Live Stock Pavilion located in Portland, in the vicinity of the Union Stock



Yards and the packing plants, is the best of its kind west of Chicago.

In some parts of the state, especially in the coast counties, cattle may graze every month in the year. During the winter months, even in the coast counties, dairymen have learned that some feeding should be done to get the best results. About 700,000 acres in Oregon are devoted to the raising of hay of various kinds.

Twelve meat-packing plants in Oregon in 1918 yielded nearly sixteen million dollars' worth of meat products. The Union Stock

Oregon counties, and the unsurpassed dairy herds of Holstein and Jersey in the Willamette Valley and the coast counties have given Oregon the name of "The Home of Blooded Stock."

## IX

There are about twenty-five million acres in Oregon covered with valuable growths of Douglas fir, yellow pine, spruce, cedar, hemlock, and other varieties of merchantable timber. About one half of the timber in Oregon is

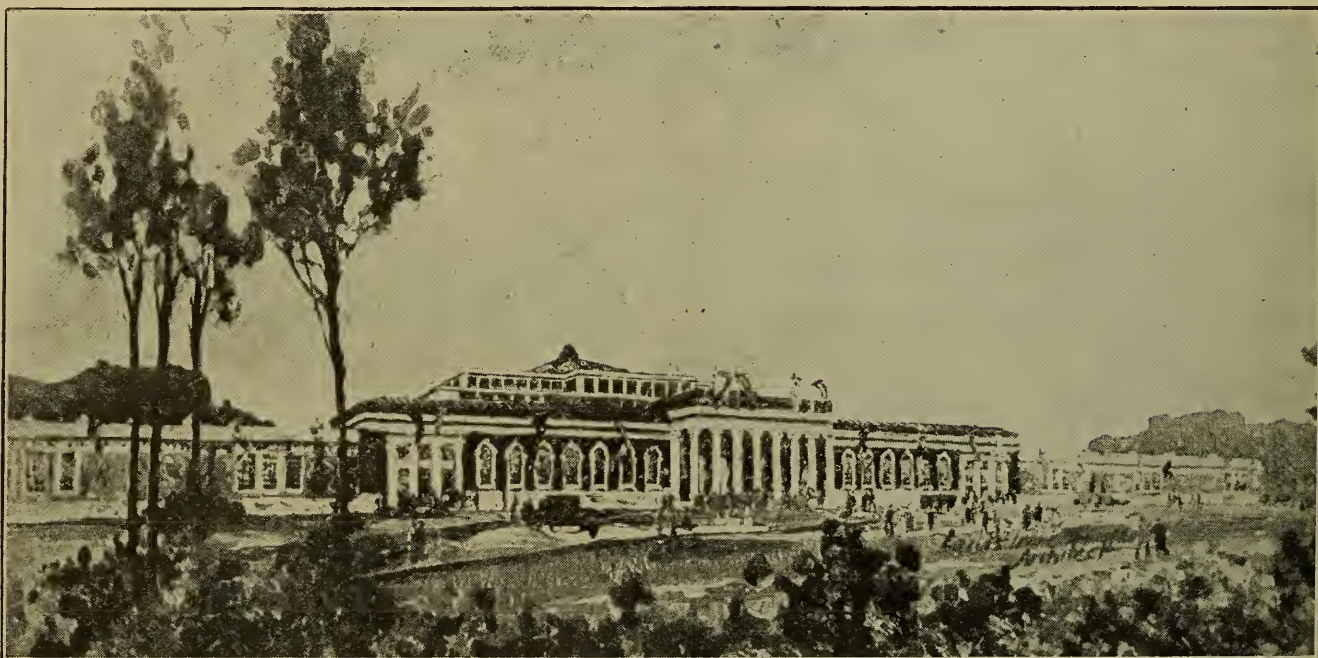


FIG. 14. — Live Stock Pavilion, Portland.

Yards' record shows that in 1919 the State of Oregon shipped about 8000 cattle, 12,000 hogs, and 14,000 sheep to the Portland center.

Ten counties in Eastern and Southern Oregon yield annually more than one million sheep and goats. The number for the entire state is more than a million and a half. The annual wool and mohair clip for the state is about 13,000,000 pounds, valued at \$6,500,000. In the production of mohair, Oregon ranks among the first states.

The goats and sheep of Yamhill County, the sheep of Jefferson and other eastern

found in Government Reserves. There are sixteen such reserves in the state. Lumbermen are permitted to cut and market the mature trees in these reserves after obtaining leases from the United States Government.

The timber in the State of Oregon, if cut into lumber, would require thirty-three million cars to transport. These cars would make a train that would encircle the globe about eight times. If cut and stacked in a solid cube, as lumber is ordinarily piled in lumber yards, it would make a solid cube over twelve thousand feet on each edge, which is greater than the height of Mount



Hood. It would require three hundred saw-mills, each cutting one hundred thousand feet per day, one hundred ten years to accomplish the task. That Oregon is to continue in the first rank of lumber-producing states is assured, for the natural growth aided by reforestation now produces ten per cent more timber than is being cut.

The products of Oregon timber bring into the state every day of the year (Sundays included) more than \$110,000.

The Douglas fir of Oregon is superior in quality for ship and bridge building and construction that requires timber of the greatest tensile strength. The yellow pine found largely in the eastern and southern parts of the state is used chiefly for general building purposes. Cedar is used largely in making shingles and other building materials which will be exposed to the weather, as it is less affected by the action of the sun and rain. Spruce is valuable for airplane stock and paper manufacture. Hemlock, because of its poisonous effect on insects, is exported in large quantities to the islands of the Pacific and to the Orient where it is necessary to guard against insect activity.

## X

Ores of precious metals have been mined in the mountainous sections of Eastern Oregon since 1861, and in the southwestern part of the state since about 1855. Much placer gold has been furnished by the main streams of these sections for years. Considerable gold has been found in the beach sands, also small amounts of platinum. Gold and silver ore yields a

percentage of copper, but not until 1905 did Oregon begin to make shipments of copper.

For many years, coal has been mined in commercial quantities in the Coos Bay region, and in other parts of the state lignite coal is known to exist.



FIG. 15. — A section of Oregon's big timber.

In various parts of the state is to be found excellent building stone which is quarried in quantities sufficient to supply in a great measure Oregon's needs. An excellent quality of clay from which brick and pottery are made is found in large quantities, especially in the Willamette Valley region. Much raw material, from which lime and Portland cement are made, abounds in many parts of the state.

The total annual value of Oregon's minerals





FIG. 16. — Portland, Oregon, showing Mt. Hood in the distance.

and non-metallics (clay, gypsum, granite, etc.) amounts to about \$4,000,000. The greater part of this money is spent in our local markets for labor and supplies. More than \$135,000,000 have been produced from the mines of the state, and mining experts think that there is a good future for the mining industry.

## XI

Oregon's location renders it especially well adapted for commerce. One hundred fifty thousand square miles of territory, containing more than 1,500,000 population, are tributary to the Columbia River gateway. The only water grade route through the Cascade Mountains

is by way of the Columbia River. The heavy snows that make rail transportation so uncertain and expensive both by the northern and the southern routes do not occur here. Climatic conditions are more favorable here for ocean traffic, as the records kept by the United States Lighthouse Service indicate fifty per cent less fog than occurs either in the Puget Sound ports or at San Francisco.

Portland, a city of nearly 300,000 population, is the center of many railroad lines. The chief of these are the Union Pacific system, the Northern Pacific, the Great Northern, and the Spokane, Portland and Seattle R. R., entering from the east and north, and the Southern Pacific from the south. These lines have many important

1. Railroads



branches which reach almost every part of the state. In addition to the steam roads named, electric lines are operated in the Willamette Valley. These lines of railroads make it possible for the produce of the state to be delivered in a few hours to the local markets and to be transported by ocean-going vessels to any port of the world.

The Columbia and Willamette rivers furnish excellent waterways

2. **Rivers** for the transportation of produce from the northern counties of the state and those situated in the Willamette Valley between the Cascade Mountains and the Coast Range. These rivers and their tributaries also afford means of transportation for the lumbering industry. Millions of feet of logs are floated annually to the mills located on these rivers.

Within the past few years, many millions of dollars have

3. **Highways** been spent in Oregon in building hard-surfaced roads. These highways, referred to elsewhere, have made it possible for the producers of Oregon to make use of motors for the marketing of their crops. A system of highways has been established which in a few years will bring every part of the state within marketing distance of all the centers of population.

Portland on the Willamette River; Astoria, near the mouth of the Columbia River; and Marshfield, on Coos Bay, are the principal ports. Ocean-going vessels of the largest size enter the first two named ports and many valuable cargoes are shipped from Coos Bay which is entered by a coastwise line of steamers.

The chief imports are vegetable oils, coffee, copra, hemp, rice, rubber, silks, sugar, and tea. These amount to many millions annually.

5. **Imports and Exports**

Our chief exports are lumber, flour and cereals, grain, fruits, fish, and meat products. The value of our exports is many times



FIG. 17. — Mitchell Point on the Columbia Highway.

greater than our imports, leaving a very satisfactory balance of trade in our favor.

From what countries do we get vegetable oils, rice, silk, coffee, tea, rubber, hemp? To which countries do we send, either by rail or water, our exports? How far is Portland, our chief port, from the principal markets of Asia, South

6. **Study**

America, and Europe? Trace on a map the chief lines of railroads entering the state, also the ocean routes of commerce.

## XII

Oregon in the past ten years, especially in the vicinity of Portland and in the Willamette Valley, has made much progress in manufacturing. The cheap power that will be available when the rivers and mountain streams have been fully harnessed in every part of the state insures Oregon's industrial development and importance. There is an intimate relation between

ship building industry is not included in these figures.

It has been stated that Oregon is the first state in the United States in the amount of standing timber. It is also true that it stands first in the amount of timber products. The total value of Oregon's timber products, not including furniture manufacture, for the year 1918, was over \$30,000,000. When the rebuilding of the European countries which were laid waste during the war begins, a larger demand will be made on Oregon's timber resources.

In 1919, Oregon had about one million acres devoted to wheat raising. The greater part of the wheat from this vast area, as well as much of the wheat raised in Washington and Idaho, was marketed through Portland and the Columbia River ports. The value of Oregon's flour and feed output in 1919 was about thirty million dollars.

An excellent quality of wool is grown in Oregon. There are ten woolen mills in the state, which turn out about two and a quarter million dollars' worth of products annually. There are several wool scouring plants and knitting



FIG. 18. — Main building, Oregon Normal School at Monmouth.

factories on the one hand, and on the other the industries which produce raw materials, that must be kept constantly in mind. Every additional pound of wool consumed in our Oregon mills, every additional bushel of fruit passed through our driers, every extra bushel of wheat converted into flour, one log more made into lumber, gives employment to an ever increasing population who are in turn dependent upon our farms, dairy and poultry ranches for their products.

The total value of the output of Oregon's factories for the year 1918 was \$62,231,237. This is an increase over 1917 of one hundred sixty-six per cent. These industries employed about 40,000 men and women. The

works. The woolen products made in Oregon are in great demand and find a wide market. The quality is not excelled in any other part of the United States.

Paper made from wood pulp is an important product. Some of the largest paper mills in the United States are located in Oregon. There is an unlimited supply of raw material for the manufacture of paper and the industry will no doubt make a rapid growth. The value of Oregon's paper products amounts annually to more than three million dollars.

There are many large meat packing plants in Oregon, the annual product of which is valued at more than fifteen million dollars.

Oregon is the largest furniture manufactur-





FIG. 19. — Part of the campus of Oregon Agricultural College, showing some of the main buildings.

ing center in the entire west, and in some lines of furniture ranks third in the United States. There are many varieties of woods here which are especially adapted to the making of first class furniture.

While the leading manufacturing lines have been named above, there are many others of much importance. Rope and twine, shoes, rubber goods, tile and brick, and leather are among the important products made in Oregon.

### XIII. Education

Oregon's public schools rank among the best in the United States. The elementary Administration and high schools, except in a few first class city districts, are directly under the supervision of the Superintendent of Public Instruction, whose office is in the Capitol at Salem. The Superintendent has assistants who aid in the inspection of

the schools of the state. Working under the direction of the State Superintendent is a special director of vocational training work. Each county has a County Superintendent, and in a few counties rural school supervisors are provided whose business it is to visit schools and inspect the work done in them. In districts of the first class, City Superintendents are elected who are held responsible for the administration of their districts. In each district of the state, school board members are elected whose duty it is to elect teachers and look after the business of the district.

There are 2530 districts in the state; 30 consolidated districts; about 20 union high schools; and 220 district high Schools and colleges. In some city districts more than one high school is located. There are eight in Portland. The funds for maintaining the elementary and high schools of the state are by direct local taxation, an appor-



FIG. 20. — A view of the campus of the University of Oregon, Eugene, Oregon.





FIG. 21.— The General Library building, Portland, Oregon, said to be one of the finest in the United States. Extension courses of the University of Oregon are given in this building.

tionment of not less than ten dollars for each person of school age, from the county tax, and the per capita tax from the state derived from interest on the permanent school fund, which is now \$6,689,912.30. Pupils finishing the eighth grade are admitted into the high schools without examination. If there are no high schools in their districts, the state provides for a transfer of tuition money to the high school they wish to attend.

The Oregon State Normal School is located at Monmouth. This school is well equipped for training young men and women who are preparing themselves to teach in the elementary schools of the state. This school is maintained by a state millage tax.

Oregon Agricultural College, located at Corvallis, ranks second among the agricultural colleges of the United States. The college grounds comprise three hundred forty-nine acres of which ninety-one acres are campus, one hundred forty-three acres are devoted to farm, garden, and

orchard work, and one hundred fifteen acres are used for the college stock farm. Funds for maintaining the work of the college are derived from the national government and the State of Oregon.

In addition to the resident instruction done, extension service and experiment stations form an important part of the college work. Experiment stations are located at Union, Talent, Moro, Hermiston, Burns, Astoria, and Hood River.

Oregon's State University, located at Eugene, is among the best in the western states. It

has greatly enlarged its usefulness to the state by its extension and correspondence work. Any citizen of the state qualified for university work may either take a correspondence course or join one of its extension classes. Residence at the University is not required for this work. The Medical School of the University is located at Portland. The activities of the University are maintained by a millage tax on all the property in the state.

The work of the State Library and of the local libraries throughout the state constitute



FIG. 22.— An alfalfa field in Eastern Oregon.



a very important part of the state's educational activities. The General Library,

**Libraries** located in Portland is the center of a very large part of the extension work of the University of Oregon.

Industrial, Deaf, and Blind schools are located in Salem. Asylums are **Other institutions** located at Pendleton in Eastern Oregon, and at Salem.

### Blue Mountain Division

Name the counties in this group. What mountains in this section? Trace on an

**Study** outline map the principal rivers. Locate the county seat of each

County. What can you say of the surface and drainage of this group? What are the principal industries? How does this group compare with the other groups of the state in industries? Products? Write a letter to a pupil in your grade in some other county, in which you tell him all about the products and industries of your county; and request that he write to you telling all he can about his county.<sup>1</sup>

There are five counties in this division. The section takes its name from the mountains which lie almost wholly

**Counties** within it. The elevation varies from about 900 feet above sea level in the west and north to

**Surface and drainage** 9800 feet above sea level in the central part. The mountains are generally covered with timber to an elevation of 6000 feet. If you look at the relief map, you will find that the drainage is from the central portion of the group to the



FIG. 23. — A cornfield in Eastern Oregon.

east, north, and west. Take your outline map that you used before and indicate the high lands and trace the important rivers. The Snake and the John Day rivers flow through deep and narrow gorges for a portion of their distance through the mountainous region. These swift flowing mountain streams afford many valuable power sites, which,

<sup>1</sup>SUGGESTION TO TEACHERS: It would be an excellent supplement to the text if the pupils were inspired to write to the pupils in their grade in the various schools of the state asking for definite information about their particular localities. A great many pupils have kodaks and could probably arrange an exchange of views which would make a valuable collection for an Oregon scrapbook. Encourage the pupils to make clippings from the papers they read and keep them for the scrapbook. Articles too long to be clipped should be reduced to a paragraph by the pupil and saved. If the letter writing habit can be started, it will not only have a good effect on the study of Oregon geography but will be an excellent experience in real letter writing. An Oregon geography club might be organized in the school and many pupils not studying the supplement would be interested in helping with the work.





FIG. 24. — A chicken ranch in the Blue Mountain region.

able for grazing, and horses, cattle, and sheep are produced in large numbers. When irrigation is fully developed in favorable areas, and transportation facilities are extended, the industries in this section will be wonderfully increased.

when developed, will furnish power enough to supply all the mills, factories, and farms in this entire group. By looking at the relief map, you will see that this division of counties is generally hilly and mountainous.

The soil of this group varies from a heavy, brown, sandy soil in Baker County, known

**Soil and crops** as Yakima loam, to a light silt in the western part of Wheeler County. What is loam? silt? The largest acreage and the largest tonnage of alfalfa are found in this section. All hardy varieties of grains and grasses do well here. Wheat, rye, oats, and corn as well as all kinds of vegetables are raised in large quantities. In many parts of this section excellent soil for the growing of sugar beets is to be found.

The leading industries of this section are wheat raising, alfalfa, **Industries** lumbering, mining, and stock raising.

Since 1861 gold and silver have been mined in paying quantities in this section and it is now the chief metal producing section in the state. The Blue Mountains contain some excellent bodies of timber and there are many saw-mills, planing mills, box and shingle factories located here. In a large area conditions are favor-

The assessed valuation of this section is more than \$83,000,000. There are 4398 farms comprising nearly one **Valuation** and one half million acres.

Trace the lines of railroads in this section. How far are the chief cities from Portland? What products are shipped from this section?

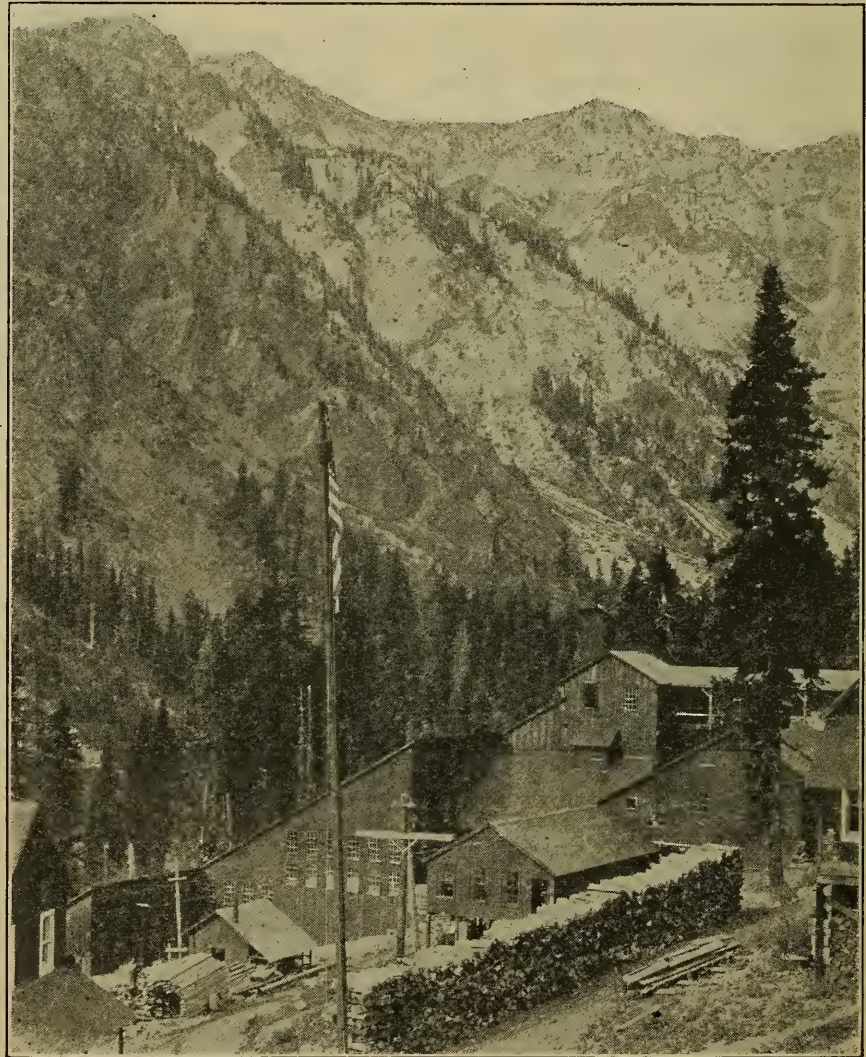


FIG. 25. — A gold mine in Baker County.



How does this section compare in size with the other sections of the state? What do you think the general climate is? Would you expect to find a wide range of temperature here? Give reasons for your answer. In what part of this section would you expect to find the greatest rainfall? Why? How does the rainfall of this section compare with that of the sections west of the Cascade Mountains? What causes the difference? Turn to the last page and find the total population of this section. Name the largest towns in this section and locate them on your map.

### Columbia Basin

How many counties in this group? How does it compare in size with the other groups in the state? Trace on your outline map the principal rivers and streams. In what general direction do the streams flow? How do they compare in size with the rivers of the Blue Mountain section? What part of this section is mountainous? In what part is the largest area of level and rolling land? What industries

would you expect to find in this section? Why? If you were looking for a location for fruit growing would you go to this section? In what county would you locate? If you wished to go into the wheat raising industry where would you locate? If you do not live in this section, write to the boys and girls in the schools of this section for facts about their counties. Tell them all the interesting facts about your county.

There are seven counties in this section. They lie within the Columbia River Basin from which the section takes its name. What is meant by river basin?

Counties

The surface of this section varies from the level surface and bottom drainage land along the Columbia River to the mountainous regions in the eastern and western parts. The elevation near Hood River is from 600 to 1200 feet. It reaches its highest point at Mount Jefferson which has an elevation of 10,500 feet.

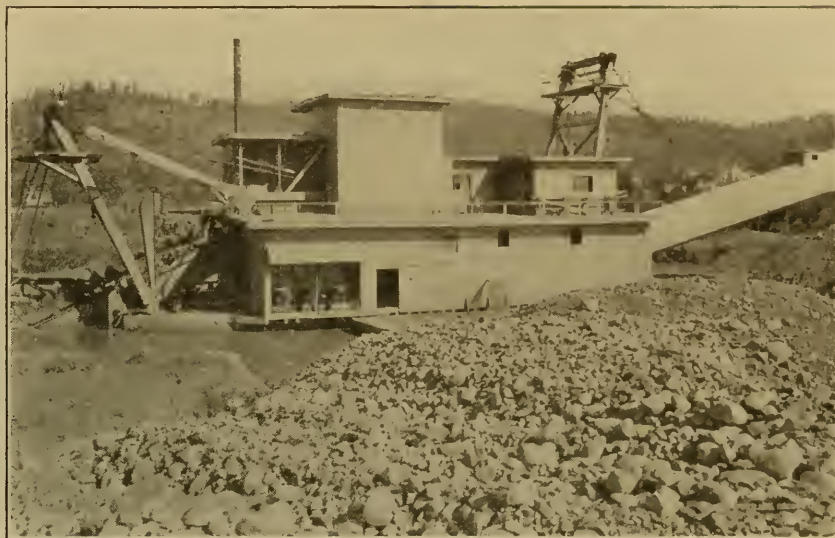


FIG. 26. — A gold dredge in Eastern Oregon.



FIG. 27. — A general view of Hood River Valley.



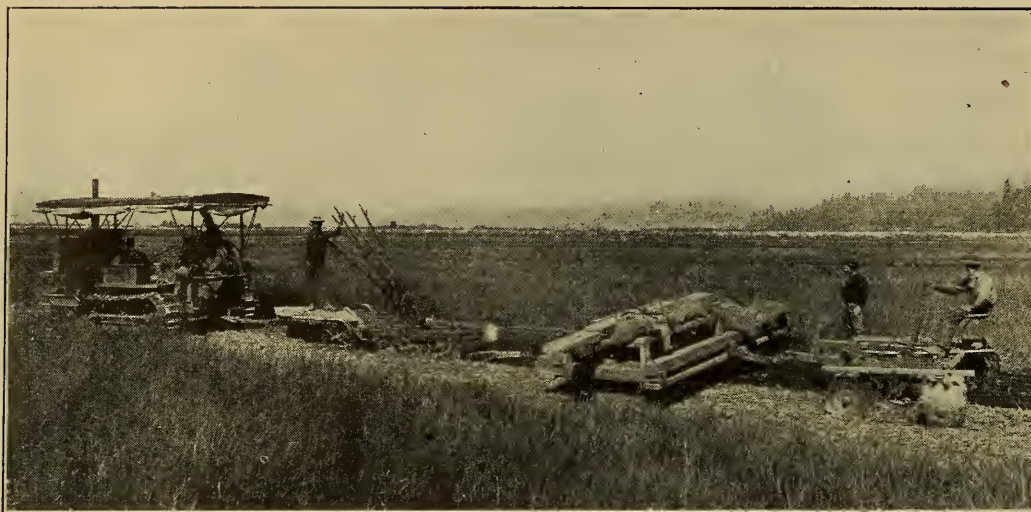


FIG. 28. — Preparing wheat land. Four operations in one, — plowing, disking, harrowing, and rolling.

Locate this mountain on your relief map. The surface is well drained by many rivers and small streams. Trace these rivers on your map. Some of these streams flow through deep canyons and divide the section into many plateaus and valleys differing widely in character of soil and physical features.

The central and eastern portions of this section have a light silt or "dust soil." Especially is this true of Umatilla County, which produces the largest yield of wheat in the state. In the northwestern part the soil is of a gray and red clay loam. This soil is especially adapted to the raising of fruit. In the Hood River, Mosier, and The Dalles regions, fruit culture has reached its highest development. The apples, cherries, peaches, and grapes have won the highest honors in competition with other

sheep are produced in large numbers and millions of pounds of wool are shipped annually to the various markets of the United States. Farming is done on a large scale and all the modern machinery of production is employed. The roads of this section are generally good and trucks and motors are used to transport the products to market. Irrigation has been done on a large scale and in these regions general farming is very profitable. Dairying has been developed in some parts of this section and much attention is paid to the breeding of blooded stock. The largest blooded sheep ranch in the world is said to be found in Jefferson County.

The organization of the fruit growing industry has reached its highest development in the Hood River section. Through this



FIG. 29. — A "wheat train." The modern method of hauling wheat to the railroad.





FIG. 30. — One hundred and forty thousand sacks of wheat grown in the Columbia Basin awaiting shipment.

organization waste has been eliminated and the fruit raisers realize the best returns for their products. Apples that are not up to grade for shipping are taken to the mills and made into cider and vinegar which find a ready market. Fruit and vegetable canning is done in season and millions of pounds of both fruit and vegetables are preserved by the dehydrating process. Wasco County ranks second in the state in the production of grapes and the quality is said to rival that of the grapes of France, Spain, and northern Italy. They are superior in flavor to the California grape.

There are about 5000 farms in this section having a total area of more than  
**Wealth**                    2,500,000 acres.  
 The assessed valuation is about \$130,000,000.

Locate the county seats and tell for what industry each is an  
**Map Study**            important center.  
**and Review**        Trace the lines of  
 railroad and tell how far these market centers are from Portland. Is the Columbia River an important means of traffic? What has the United States done to im-

prove navigation on the Columbia River? Find out all you can about the dehydrating process of curing fruits and vegetables. If you do not live in Hood River or Pendleton, write to the boys and girls in the schools there asking them to tell you about the fruit, wheat, and wool industries.

#### Central Oregon Division

How do the counties in this division compare in size with those already studied? In what part are the level plains to be found?



FIG. 31. — "Last call for dinner."



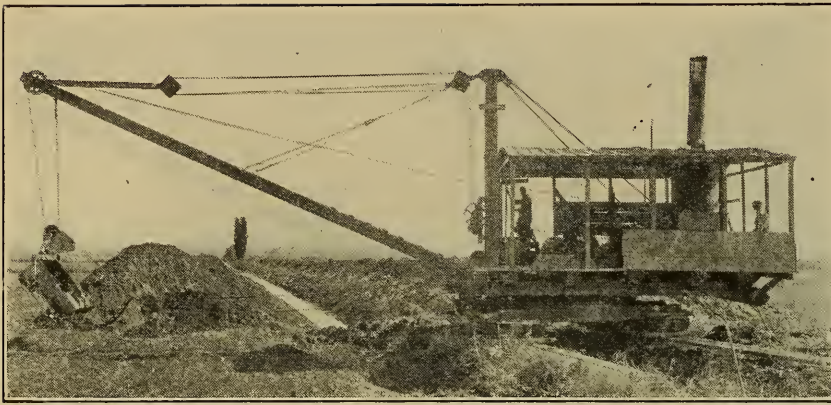


FIG. 32.— Digging a drainage canal, in the eastern section of Central Oregon.

would you have to borrow from the states of Illinois and Ohio to find room enough? If Harney County were as thickly populated per square mile as Massachusetts, what would its population be? Why isn't it as thickly populated?

Name the six counties of this section and locate them on your map. **Counties**

Also name and locate the county seat of each.

If you will look at your map,

How does the elevation of this section compare with that of the other sections of the state?

you will find that many of the rivers and streams of this section flow toward the cen-

**Map Study**

What mountains form a rim around this group of counties? What industry do you think would be the leading one in this section? Why? What, in your opinion, is one of the greatest needs of this section? Compare the size of



FIG. 33.— Cattle ranch in Central Oregon.

Harney County with that of some of the New England States. If you were to place Malheur County across the State of Indiana,

tral part and that the lakes into which they drain have no surface outlet. Would you expect to find the water in these lakes charged with minerals?

It is said that some of the lakes in Lake County have brackish water. What does that mean? The elevation of this section is from 3000 to 6000 feet above the sea level and the greater part of it is above 4000 feet. The interior is a vast rolling plain, much of which has not been brought under cultivation. Some extensive irrigation proj-



FIG. 34.— Barnyard scene on a small ranch in Central Oregon.



ects have been completed and many others are under way. What will be the effect on this section and the state at large when these vast uncultivated tracts are put under irrigation? In order that the products of this section may reach the markets of the world, railroads and highways must be built.

Would it be an advantage to the entire state to have good railroad facilities and first-class highways in this section? Give reason for your answer.

The soils in this section vary from light



FIG. 35. — Beef cattle in pen awaiting shipment to market.

volcanic ash to clay and sandy loams. This means that all general crops can be produced profitably. Hay, grain of all kinds, vegetables and fruits are the chief crops. In some parts of this section the soil is so rich that from 10 to 20 acres, when placed under irrigation, is sufficient to provide for an average family.

In practically all of the counties of this section stock raising is the chief industry. Hay is produced in large quantities and there are thousands of square miles of excellent range for both cattle and sheep. This section ranks first in the production of cattle, especially beef cattle. The towns of Vale and Ontario alone, in Malheur County, market annually more than 6,000,000 pounds of wool. In this section, in Klamath County, is to be found the largest body of white pine in the world. It is estimated at 21,000,000,000 feet. Lumbering is an important industry in this county but better transportation is needed for its proper development. At Bend, in Deschutes County, is located one of the best sawmills in the state, and lumbering is the chief industry of this county.

The wealth of this section is not all shown by the returns made to the Tax



FIG. 36. — Sugar pine between Medford and Crater Lake, said to be the largest in the world.



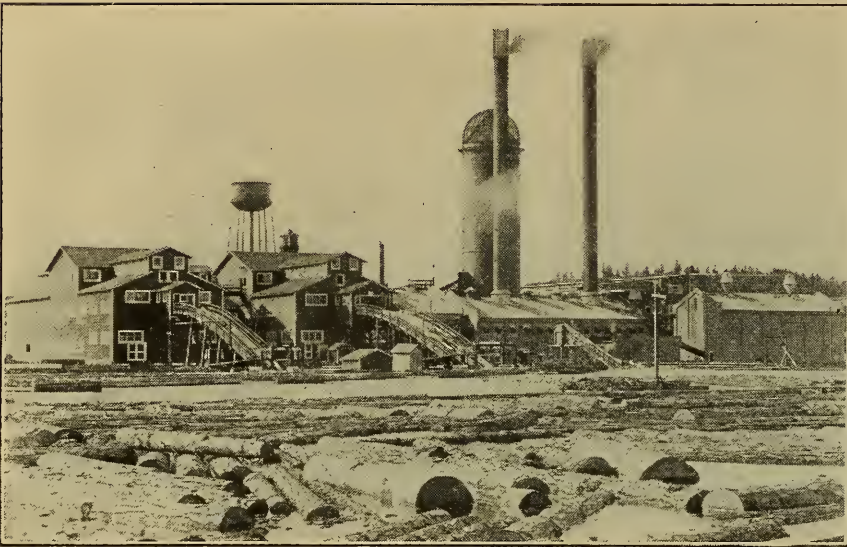


FIG. 37. — A modern lumber mill at Bend.

Commission, for it has a wealth of natural scenery that is invaluable. Crater Lake, one of the nation's greatest wonders, is located in this section and thousands of tourists visit it annually. The largest body of government land in the United States is to be found here. There are about 1500 farms in this section with a total of about a million acres. The assessed valuation is about 70 million dollars.

What are the nearest markets for this section? How are they connected? Do the products of this section go to the Portland market? Why? Locate the principal towns and cities in each of the counties. Write to the school children in these towns and cities asking them to tell you all about their industries and markets. Tell them about your

county. Boiling artesian wells are found in Malheur County; find out what an artesian well is and what makes the water hot. Natural gas has been found in this section. What is natural gas and what may later be discovered in this region? How do you think the rainfall in this section compares with that of the other sections of the state? Why? Turn to your outline maps and trace the principal rivers and locate Crater Lake. In which county do you find the greatest number of lakes? Locate some of them on your outline map.

### Southern Oregon

Trace on your outline map the two principal rivers of this group. Write on your map the names of the counties of this section, and locate the county seats. Name and locate the numerous

Map Study



FIG. 38. — Orchard scene.



mountains. In which part is the highest elevation to be found? Look at the relief map and tell all you can about the surface of this section. Name and locate the principal cities in this section and estimate the distances from them to Portland. What can you say of the railroad facilities in these counties? Of what importance are

the Rogue and Umpqua rivers to this section? How does the rainfall of this section compare with the rainfall of those sections you have studied? What causes the difference?

There are three counties in this division; they are, in a great measure, the watersheds of their two important rivers.

This section is very largely mountainous. The elevation ranges from 1000 to 3500 feet



FIG. 39. — A scene in Rogue River Valley.

in the western part to the summit of Mount McLaughlin in the eastern part of Jackson County. The height of this Surface and mountain is 9760 feet. It was drainage formerly called Mount Pitt. There is but little level land in Douglas County. In this county the climate and general surface and appearance differ from those of any other county in the state. It is made up chiefly of little valleys, varying from a mile to a mile and a half in width. Josephine County is probably the most mountainous in this group. The western part is practically undeveloped and is visited by few people except hunters, prospectors, and forest rangers.

There are to be found small areas of many kinds of soil. These soils vary Soil and crops from the heavy, black loams of the river bottoms and low rolling areas to the red clays of the foot hills and the lighter volcanic ash of the uplands. As might be expected, the soil of this region is very productive. Here we find the best peach and pear culture in



FIG. 40. — Boxed apples in warehouse, ready for shipment in refrigerator cars.





FIG. 41. — The "Marble Halls" of Oregon. A scene in the Josephine County caves.

the state. The peaches and pears of Douglas, Jackson, and Josephine are as famous as the Hood River apples. Here also is grown the first supply of early spring fruits and vegetables for the northern markets. This is especially true of the Umpqua Valley. Jackson County is said to rank first in acreage of commercial orchards; second in the volume of apples produced; and first in the production of pears, peaches, and apricots.

Many industries are profitably engaged in here, but the leading ones are agriculture, fruit raising, lumbering, poultry and stock raising. From Douglas County, annually, there are shipped many carloads of turkeys for the holiday trade. The pear and peach industries have become highly specialized in this section and yield much wealth in return.

As was true of the last section studied, there is a wealth of natural scenery here that can-

not be estimated in dollars. The famous "Marble Halls of Oregon," in Josephine County rival the Mammoth Cave; their beauty cannot be shown by picture. The assessed valuation is about 65 million dollars. There are some 1500 farms comprising about 400,000 acres.

Why is this section so well suited to the raising of fruit, especially peaches and pears? How does it compare with other parts of the state in the production of early fruits and vegetables? To what market is the greater part of the products

of this section sent? What can you say about the turkey raising industry here? Exchange post cards of the interesting bits of scenery in your county with the school children of this section. If you live in this section, send post cards of your wonderful scenery to the school children of the other counties and ask them to send cards in exchange.



FIG. 42. — A catch of salmon.



### Coast Region

Where was the first settlement in Oregon made? By whom? When? Write a short composition

Study telling all you know about this settlement. Turn to your outline map and write the names of the harbors and the principal inlets along the Oregon coast. Tell what you have learned about the seacoast and harbors. About how far is it from the Columbia River Bar to San Francisco? To the Panama Canal? What prod-

ucts enter the ports of Oregon that have been brought through the Panama Canal? How much shorter is the water distance from the Columbia River ports to New York through the Canal than by the old route around "The Horn"? From what countries of the world do we receive cargo-laden vessels? Of what do these cargoes consist? What has the United States government done to improve the harbors in Oregon? What can you say of the methods used to make ocean traffic safe?



FIG. 43. — Interior of a salmon cannery.

Name and locate on your outline map the five counties of this group. How many have railroad connection with Portland? What counties of other Counties sections extend to the coast?

The eastern boundary line of this section follows pretty closely the summit of the Coast Range. There are many im- Surface and portant rivers draining the drainage water from these high lands and mountains into the ocean. There is comparatively little level land in these counties except in the

valleys near the ocean. Turn to your maps and locate and trace the Nehalem, the Wilson, the Tillamook, and the Nestucca rivers. In the region of the Wilson and Tillamook rivers is to be found the celebrated "Tillamook Prairie," where dairying and cheese making have reached the highest development in the state. Smaller sections similar to the Tillamook Prairie are to be found elsewhere in this group of counties.



FIG. 44. — A Tillamook dairy herd.



The soil in the valleys is generally a fine sandy loam, very productive, yielding an excellent growth of grass. In the most favored regions stock may graze every day in the year. The uplands have a soil that ranges from a sandy loam and clay in Tillamook County to a red alluvial

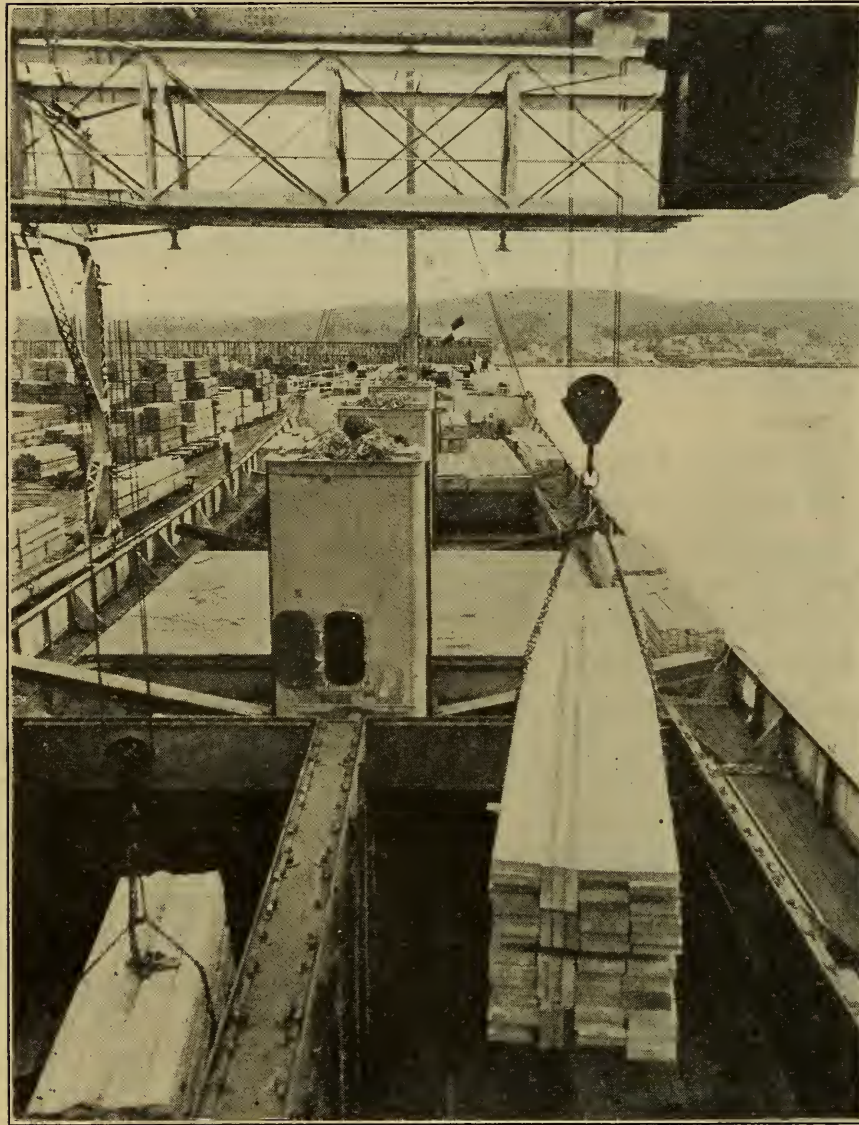


FIG. 45.— Loading lumber on a vessel at Marshfield.

in Coos County. Root crops and green-grain hay are produced in large quantities.

The greatest amount of standing merchantable timber in the United States is found in this section and lumbering is one of the chief industries. This group of counties ranks first in fishing and fish canning and in the production

of cheese. In Coos County is found the myrtle, one of the most beautiful curly-grained hardwoods, much prized for furniture manufacture. Some excellent furniture is made here. Some of the largest sawmills in the state are found in this section.

Under this head must be mentioned the fine beaches and the excellent possibilities for the development of water power. The total assessed valuation of this section is near the 100 million mark. There are more than 2000 farms, with a total of some 350,000 acres.

Without consulting the map in your book, write on your outline map the names of the counties of this group and locate the county seats. What do you know of the amount of rainfall in this section? How do you think it compares with the rainfall in the other sections of the state? Give the reason for your opinion. Are the four seasons distinctive along the coast? If not, how would you classify the seasons here? Consult your map and name the principal rivers. What important towns are located near these rivers? Name the towns that have harbors and locate them on your outline map. If you do not live in the coast region write to the boys and girls in the schools of this group of counties asking them to tell you about the fishing, lumbering, dairying, and cranberry industries.

#### Willamette Valley Division

What percentage of the population of the state lives in this division? How does the total population of the ten largest cities of



the state compare with the total population of the state? Are large cities necessary to the growth and development of the state? Give reasons for your answer. If Portland should be destroyed would the loss affect the rest of the state? In what way? Is it to the best interests of Portland and the other cities of the state to have the highest development possible in agriculture, dairying, fruit raising, mining, lumbering, etc.? Tell what you think about this question in a hundred word paragraph.

There are ten counties in this group. Locate them on your outline map; also, locate the county seats.

The central portion of this group, as the name of the section indicates, is composed largely of level prairie stretches and fertile bottom lands. To the east and to the west of the Willamette, the chief river in the state, the elevation varies from 100 to 200 feet to about 3000 feet in the Coast Range, and from 3000 to 5000 feet in the Cascades. The eastern portion of this section is quite mountainous and covered with forests of valuable timber. There are many important rivers and smaller streams tributary to the Willamette, which furnish an excellent water supply, logging facilities, and power. Portland's water supply comes from the Bull Run River, and a great part of her power and light is carried by wire from the Willamette Falls at Oregon City. The Willamette River is navigable from Portland to Eugene and is a great aid to local commerce.

There are three distinct classes of soil in

this group: the rich loam of the bottom lands; the gravelly loams of the hilly sections; and the red clay loam near Salem and Silverton. In the upper Willamette Valley grain is extensively raised. Hay is harvested in large quantities and all kinds of general crops are produced every year. Fruit, especially prunes, cherries,



FIG. 46. — Scene in an Oregon bean field.

and berries, is raised on a commercial scale. Ninety-five per cent of the Loganberry juice of the world is produced in this section.

You will find industries of a most varied character in this section. It excels in general farming; ranks first in the production of prunes, grapes, and potatoes; has won distinction in the breeding



of fine stock; and produces the largest dairy output in the state. In the last five or six years the walnut and filbert industry has begun to be developed. The climate and soil of this section seem to be especially adapted to the raising of filberts. The manufacturing industries have been mentioned at length elsewhere. With the exception of the manufacture of products from lumber, practically all of the manufacturing of the state is done in this section.

The assessed valuation of this section is about \$550,000,000. There are 14,576 farms

**Wealth** having a total of 1,341,000 acres. How do the farms in this section compare in size with those of other sections? Give some good reasons for the difference.

Name the natural boundaries of the various sections. What can you say of the educational advantages of Oregon? Locate the University, the Agricultural College, and the State Normal School. How are these institutions supported? Why is the Willamette Valley section the chief manufacturing center? What must be considered before a factory is located? Instead of shipping the wool from Central Oregon in its raw state, why not manufacture it into cloth before shipping?

## COUNTIES OF OREGON

COUNTY	AREA SQUARE MILES	POPULATION 1910	POPULATION 1920	COUNTY SEAT
Baker . . .	3,060	18,076	—	Baker
Benton . . .	688	10,663	—	Corvallis
Clackamas . . .	1,864	29,931	—	Oregon City
Clatsop . . .	821	16,106	—	Astoria
Columbia . . .	662	10,580	—	St. Helens
Coos . . .	1,628	18,959	—	Coquille
Crook . . .	2,994	9,315	—	Prineville
Curry . . .	1,498	2,044	—	Gold Beach
Dechutes . . .	3,013	—	—	Bend
Douglas . . .	4,922	19,674	—	Roseburg
Gilliam . . .	1,201	3,701	—	Condon
Grant . . .	4,520	5,607	—	Canyon City
Harney . . .	9,933	4,059	—	Burns
Hood River . . .	543	8,016	—	Hood River
Jackson . . .	2,836	25,756	—	Jacksonville
Jefferson . . .	1,771	—	—	Madras
Josephine . . .	1,751	9,567	—	Grants Pass
Klamath . . .	5,999	8,554	—	Klamath Falls
Lake . . .	7,920	4,658	—	Lakeview
Lane . . .	4,612	33,783	—	Eugene
Lincoln . . .	1,008	5,587	—	Toledo
Linn . . .	2,243	22,662	—	Albany
Malheur . . .	9,883	8,601	—	Vale
Marion . . .	1,194	39,780	—	Salem
Morrow . . .	2,025	4,357	—	Heppner
Multnomah . . .	451	226,261	—	Portland
Polk . . .	709	13,469	—	Dallas
Sherman . . .	836	4,242	—	Morrow
Tillamook . . .	1,125	6,266	—	Tillamook
Umatilla . . .	3,173	20,309	—	Pendleton
Union . . .	2,087	16,191	—	La Grande
Wallowa . . .	3,145	8,364	—	Enterprise
Wasco . . .	2,343	16,336	—	The Dalles
Washington . . .	731	21,522	—	Hillsboro
Wheeler . . .	1,704	2,484	—	Fossil
Yamhill . . .	714	18,235	—	McMinnville

NOTE: As soon as the 1920 census is ready for distribution, have the pupils fill in the blank column.

**SUGGESTIONS.** Every pupil should have access to supplementary material when studying Oregon. Letters addressed to the various boards of trade and chambers of commerce throughout the state will put you in touch with valuable sources of information. The Bulletin issued by the State Labor Commission is valuable. The Oregon Almanac contains an invaluable fund of detailed information. This almanac was published by the State of Oregon through its Immigration Commission.

(In the preparation of this supplement special acknowledgment is due to Ruth C. Whitney and the Portland Chamber of Commerce.)























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